

Chapter V – Intermodal Freight Transportation



Intermodal Transportation Overview

- Intermodal is an attempt to combine the best features of multiple modes, using rail for the linehaul and truck for the pickup and delivery. The truckers define intermodal as “truck and something else”, and they are not far wrong.
 - Railroads have traditionally dominated long-haul transportation of heavy freight.
 - Trucks handle shorter hauls and more valuable or time-sensitive freight.
 - Air freight carries the smallest, most valuable, and most urgent freight.
 - “Intermodal” transportation uses multiple modes and attempts to combine their advantages.
 - Railroads are the most efficient long-haul mode over land.
 - Ocean carriers move containers efficiently between ports.
 - Trucks provide the most efficient pick-up and delivery system.



Intermodal technology and operations blend rail, marine, and truck modes

- Containerization revolutionized marine transport starting in the late 1950s. Containerizing cargo and handling full containers instead of boxes, crates, and barrels led to dramatic increases in vessel and port productivity and reduced loss and damage. The change on the rails was earlier and less dramatic, but intermodal has effectively replaced most of the merchandise traffic formerly carried in box cars and express equipment.



Intermodal Service Types

- The basic intermodal units are either trailers or containers moving inland by rail. The intermodal label can also be applied to transloading operations shifting freight from one mode to another. The key feature of traditional intermodal moves in trailers or containers is that the unit stays sealed from door to door.
- “Intermodal” is sometimes used to describe passenger movements by multiple modes, but as used in this report refers exclusively to freight.

A domestic trailer or container that moves partly by rail



An international container that moves inland by rail



US Public Policy
Prohibits passengers or freight moving by more than one mode

Railroads move intermodal trailers and containers on specialized railcars

Containers are the most efficient units because they can leave the wheels behind.

- Light-weight, high-capacity “double-stack” cars move most international and domestic containers. Two-man crews can move over two hundred forty-foot containers in a single train at 40-66 mph with a very smooth ride.
- Double-stack cars are the most efficient way to carry intermodal freight. Containers can be stacked two-high to create a train that is almost all payload.



Railroads move intermodal trailers and containers on specialized railcars

- Trailers move on light-weight “spine cars” or older style flatcars. The industry has been predicting the demise of “piggyback” trailers for years, but they are still in use. They now move more and more often on lightweight articulated cars that improve both efficiency and ride quality. Spine cars are more efficient than flatcars, but not as efficient as double-stacks.
- Fifteen years ago, damage due to rough riding and rough handling in freight yards was a major problem for intermodal shippers. With both containers and trailers moving primarily on these articulated cars and staying out of freight yards, the damage problems have been drastically reduced and damage is no longer an issue for most intermodal shippers.



Intermodal “Overhead”

- **Terminal and drayage costs are intermodal “overhead” that must be offset by a long efficient line-haul trip to be time and cost competitive with over-the-road trucking.** In order to be cost competitive, intermodal needs a long length of haul at low rail linehaul costs to spread or amortize those local trucking and terminal costs. The result is a strong competitive position over about 1000 miles and real cost advantages as the distance grows.
- Line-haul rail intermodal service is very efficient compared to over-the-road(OTR) trucking:
 - Reduced friction and lower fuel use per ton-mile
 - Lower labor cost per ton-mile
 - Line-haul average speeds are similar, about 40 MPH
- Truck-rail intermodal options, however, require drayage and terminal services at both ends of the move.
 - Drayage costs \$50 to \$250 on each end, or \$100 to \$500 in total
 - Terminal costs are typically \$30 to \$50 at each end, or \$60 to \$100 per move.
 - Drayage and terminal handling add 8-24 hours of time compared to OTR truckload service.

Intermodal “drayage” firms pick up and deliver trailers and containers

- Intermodal shipments move from city to city by rail, but the initial pickup and final delivery are truck move. The local or regional truckers who handle this business are called drayage or cartage firms.
 - The best of these firms are professional truckers in business for the long term.
 - Most drayage firms use owner-operators who supply tractors and drivers.
 - Many drayage firms offer contract trucking, warehousing, and other ancillary services.
 - Drayage is highly competitive, and customers tend to choose drayman based on price.
 - The drayage industry is fragmented, and vulnerable to outside pressure.



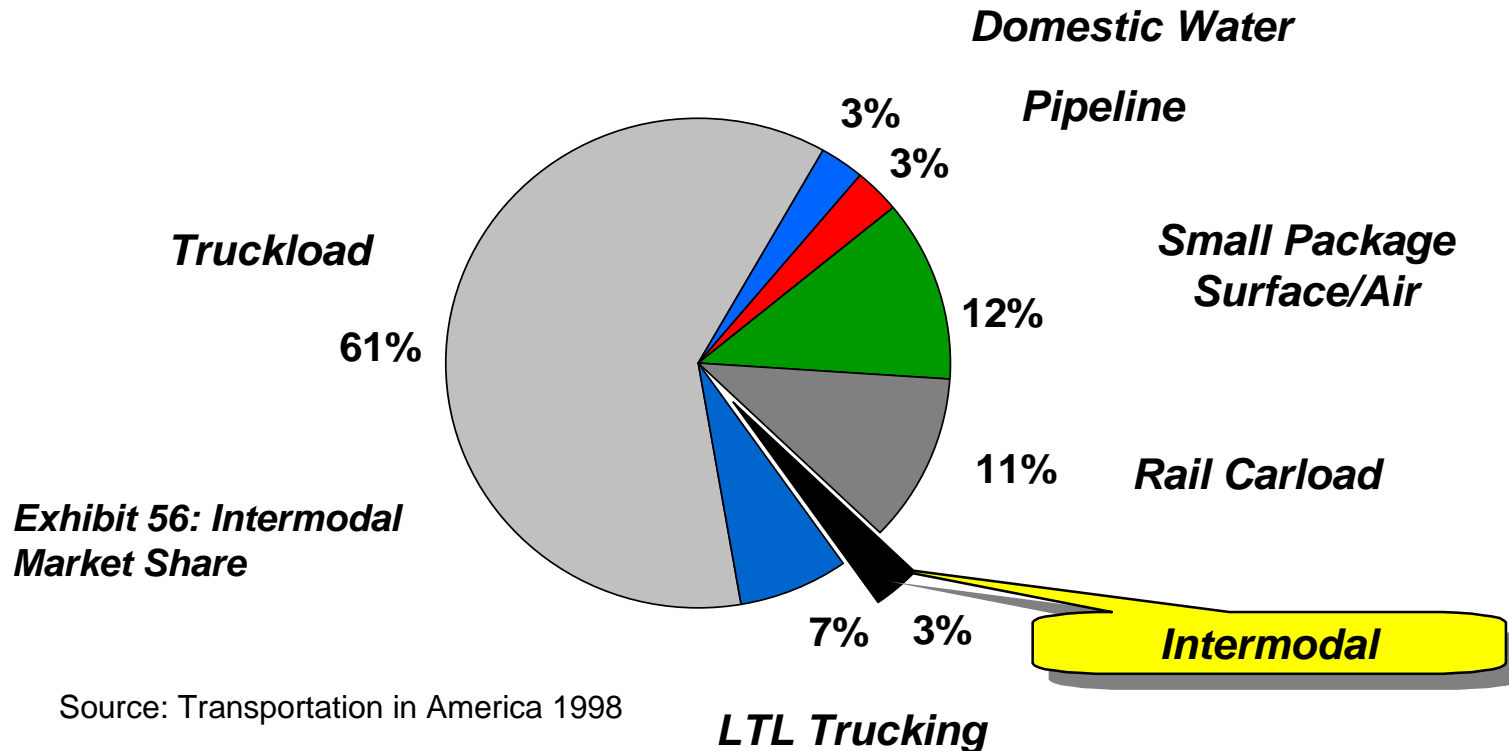
Trailers and containers are transferred between modes at intermodal terminals

- Intermodal terminals (sometimes still called “piggyback ramps”) transfer trailers and containers between trains and trucks.
 - There were formerly over a thousand primitive “piggyback ramps” all over the country. Now there are about 250 mechanized terminals in major hub cities.
 - Most of the terminals are actually operated by specialized contractors. The equipment they use can unload a container or trailer from a rail car in about two minutes.
 - Terminal operators use gantry cranes and side-loaders to load and unload trains.
- Intermodal terminals must be efficient to compete. Over-the-road truckload carriers do not need terminals, so every dollar of terminal cost and every hour of terminal time is a handicap that intermodal must overcome to compete with truckload carriers



Intermodal has only a small share of U.S. intercity commercial freight revenue

- In the huge mass of U.S. freight movements intermodal pays a relative small part, about 3% of commercial intercity freight. In movements of less than 750 miles intermodal has almost no presence. The share is much higher at longer hauls, being closer to about 15% at 1000-1500 miles.



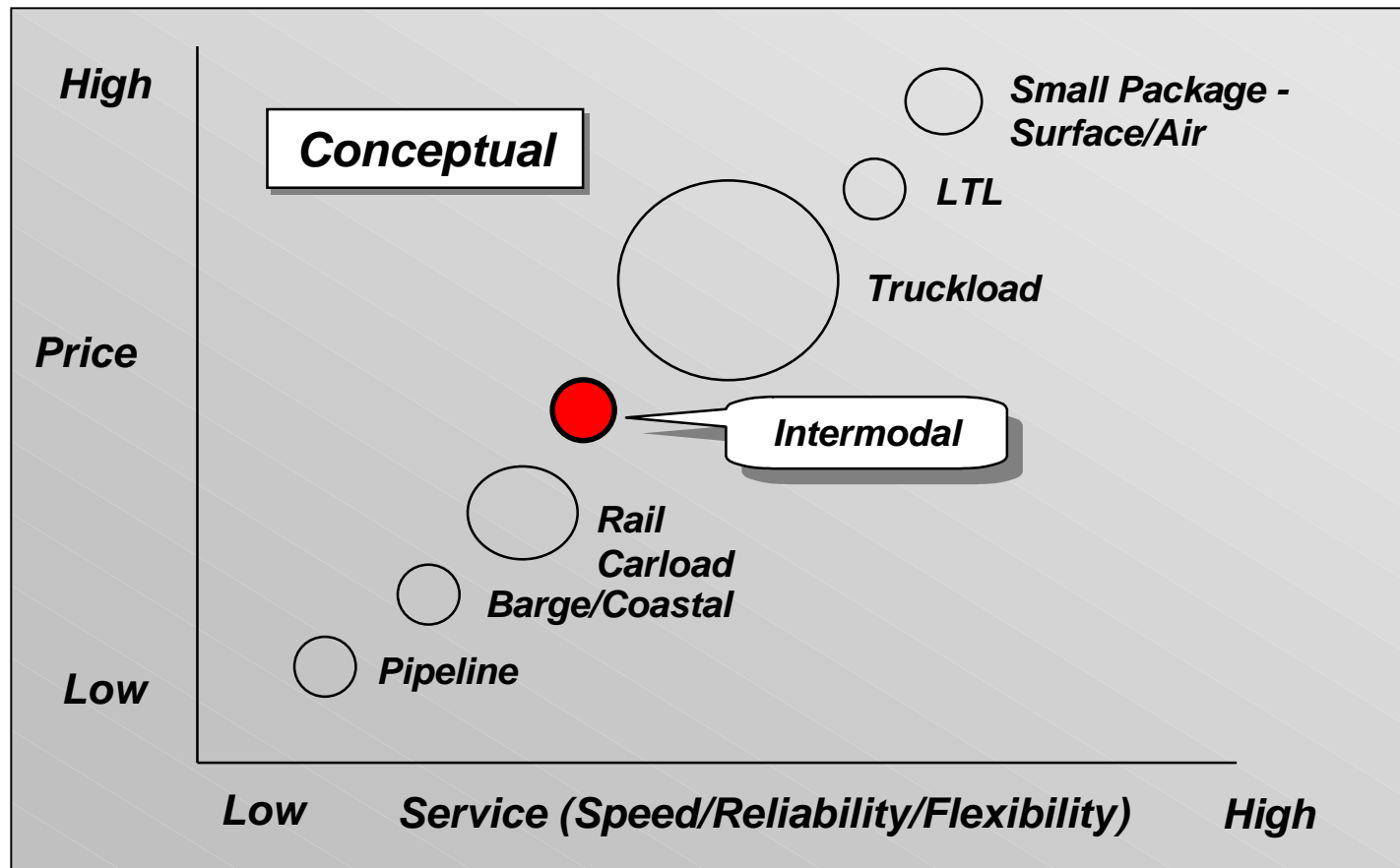
Total Freight Bill (1997) - \$328 Billion

Where does intermodal fit in the supply chain?

- Intermodal transportation bridges the gap between rail carload service and over-the-road trucking, and that it can offer an attractive alternative for many kinds of freight in many kinds of businesses.
- On both the cost scale and the service spectrum intermodal lies between rail carload service and long-haul truckload service. It is faster and more expensive than a boxcar, but slower and cheaper than a truck.
 - Intermodal transportation occupies a gap between rail carload service and long-haul trucking.
 - Intermodal is a long-haul mode with moderate speed and reliability.
 - Intermodal can provide competitive alternatives to long-haul rail carload and motor carrier services.
 - Intermodal is best suited for intermediate products, inventory replenishment, and business-to-business shipments.
 - Terminal location and performance is critical on both ends of the move.

Intermodal fills a price/service gap between rail carload and truckload transportation

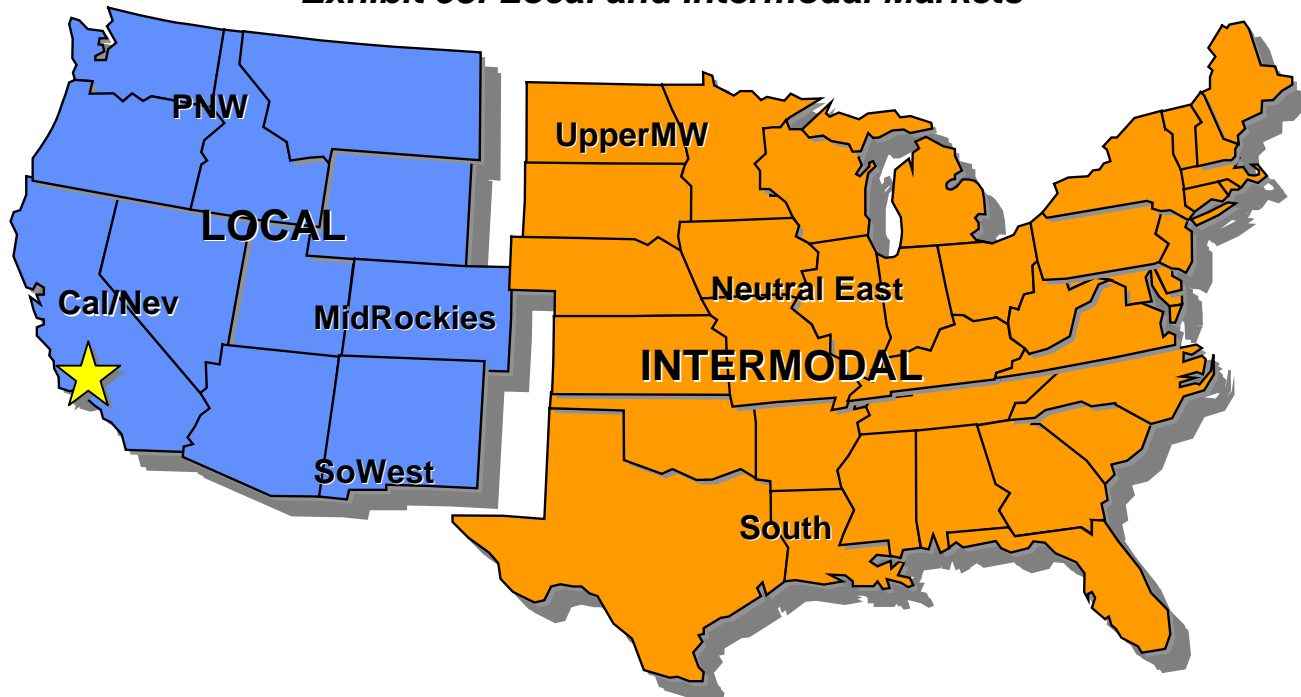
Exhibit 57: Intermodal Service Comparison



Intermodal transportation is a long-haul business

- Intermodal has very little presence in lanes of less than 750 miles, and almost none under 500 miles. The busiest intermodal lane is between Los Angeles and Chicago, about 2000 miles. From Southern California, intermodal is typically competitive for traffic moving to or from points East of the Rockies.

Exhibit 58: Local and Intermodal Markets

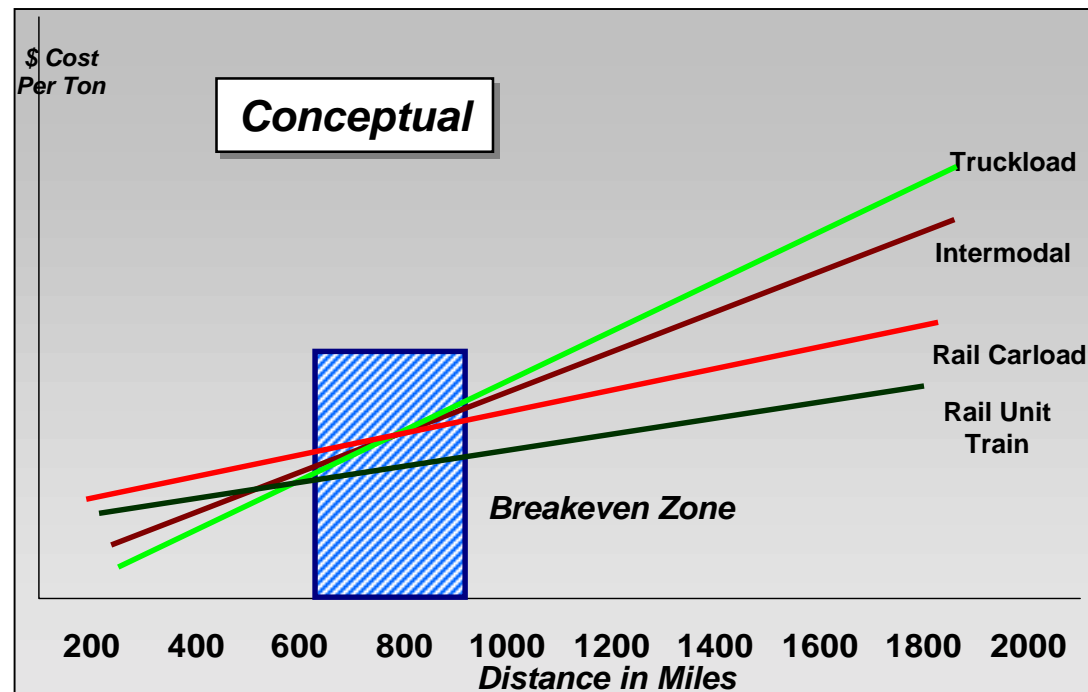


The “breakeven” mileage for intermodal vs. truck is 700-1000 miles

A cost analysis verifies the impact of distance.

- Intermodal has relatively high pickup and delivery costs and has terminal costs that truckload carriers do not have to pay at all.
- In order to be cost competitive, intermodal needs a long length of haul at low rail linehaul costs to spread or amortize those local trucking and terminal costs.
- The result is a strong competitive position over about 1000 miles and real cost advantages as the distance grows.

Exhibit 59: Intermodal Breakeven Zone



Intermodal's Role in the Supply Chain

- Customers use intermodal for..
 - Intermediate industrial products
 - “Dry” freight
 - Durable, non-fragile freight (e.g. appliances, canned goods)
 - Industrial materials and supplies (e.g. wire, fasteners, auto parts)
 - Inventory replenishment
 - Factory-to-distribution center shipments
 - Repetitive “pipeline” freight flows
 - Business-to-business shipments
- Customers typically do not use intermodal for...
 - Short hauls
 - Claims-prone freight: fragile or temperature-sensitive freight, or high-value merchandise
 - Time-sensitive loads: seasonal or fashion merchandise, or “shut-down” loads
 - Retail or consumer shipments
- A large portion of consumer shipments generated in e-commerce, however, will travel via intermodal. UPS is the biggest intermodal customer, and the US Postal Service is another major user, especially through its contractors. To the extent that UPS Ground and the Postal Service deliver what is ordered over the internet, much of it will move via intermodal.

Intermodal speed and reliability can vary

- Intermodal is at its best:
 - In single-line lanes, where there is no potential for delays or errors making connections
 - Where lane volumes justify multiple daily departures
 - Between terminals that are efficient and responsive.
- Intermodal service failures, however, often result in a long delay rather than a matter of a few minutes.
 - Trains can be delayed by anywhere from a few minutes to several hours
 - Connections between railroads can be inconsistent
 - Terminals can fail to get the train unloaded in time, fail to load the desired unit on the first train, or they can misplace the unit in the parking lot.
 - Careless handling can put the unit out of service until a tire is replaced or a light fixed, and the drayage driver will have to wait.
- For these reasons, many experienced intermodal customers build in an extra day in the schedule and let the unit sit at the destination terminal if need be. This practice congests the terminals, but too often the slack is needed to provide consistent delivery.

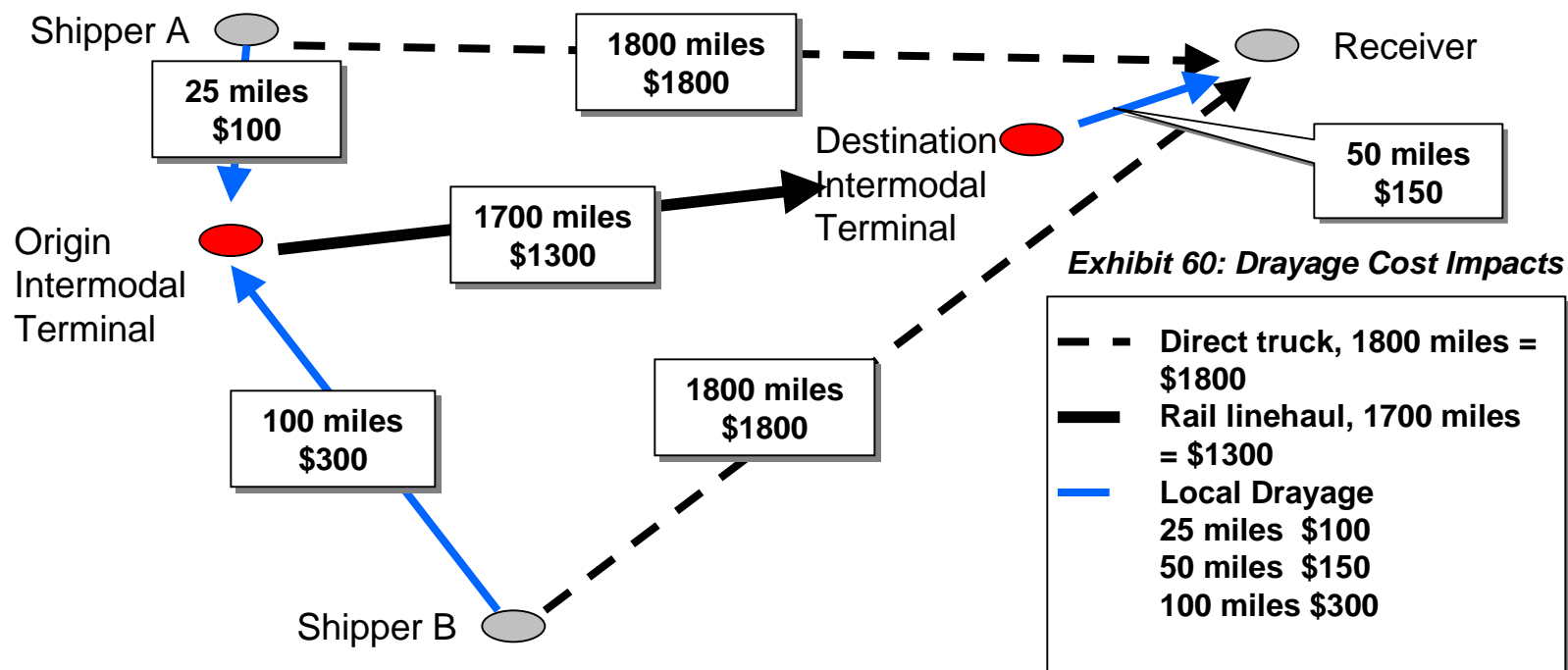
Drayage and Terminals can make or break intermodal's advantages

- The location and quality of the local intermodal terminal has a substantial impact on intermodal economics and service quality.
 - Drayage and terminal costs are a large part of the total intermodal cost.
 - Terminal delays, rough handling, and mistakes are a major cause of unreliability and claims.
 - Drayage distance (“stem time”) to and from terminals determines where intermodal can compete.



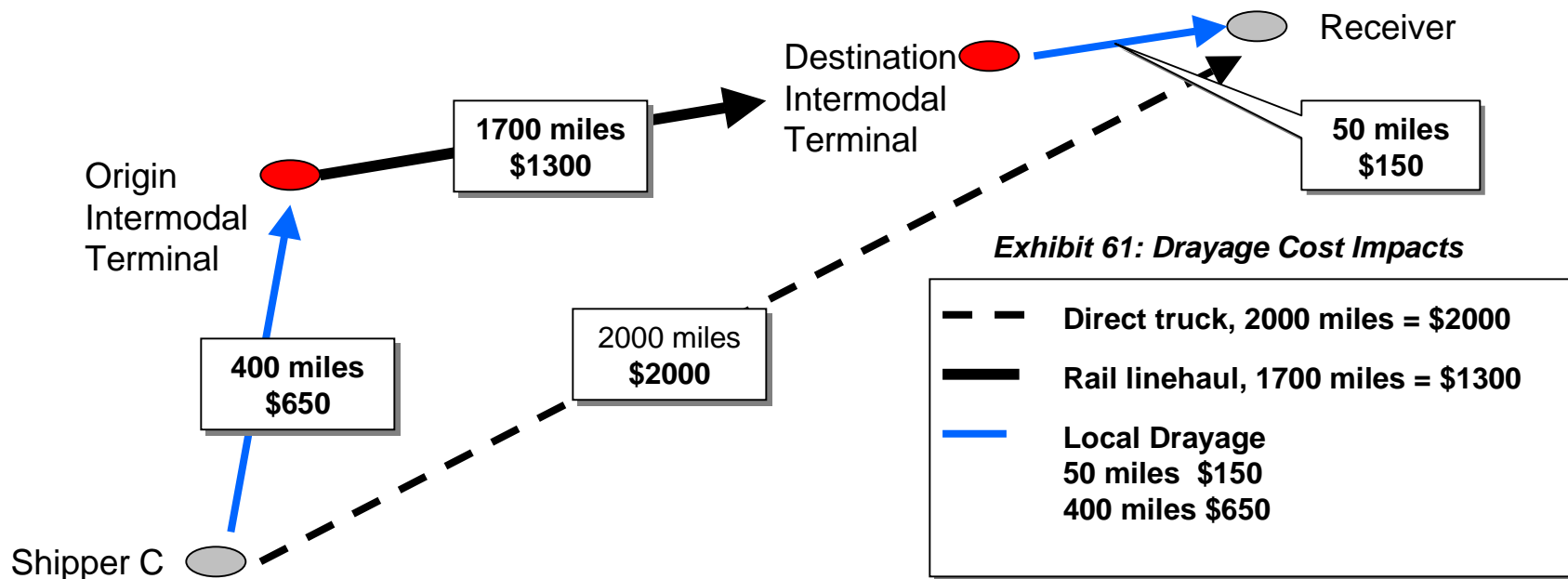
Intermodal is more competitive with truck when drayage distances are short

- The total cost of intermodal includes a large portion of drayage expense, and if it is too far to the nearest terminal the economics become unfavorable.
 - In the diagram, Shipper A is 1800 miles from the consignee and truckload service would cost about \$1800. With a \$100 dray at origin, a \$1300 linehaul, and a \$150 dray at destination, intermodal would cost only \$1550.
 - Shipper B, also 1800 miles from the consignee, is 100 miles from the origin intermodal terminal. The higher drayage cost at origin pushes the intermodal cost to \$1750, nearly the same as the \$1800 trucking cost.



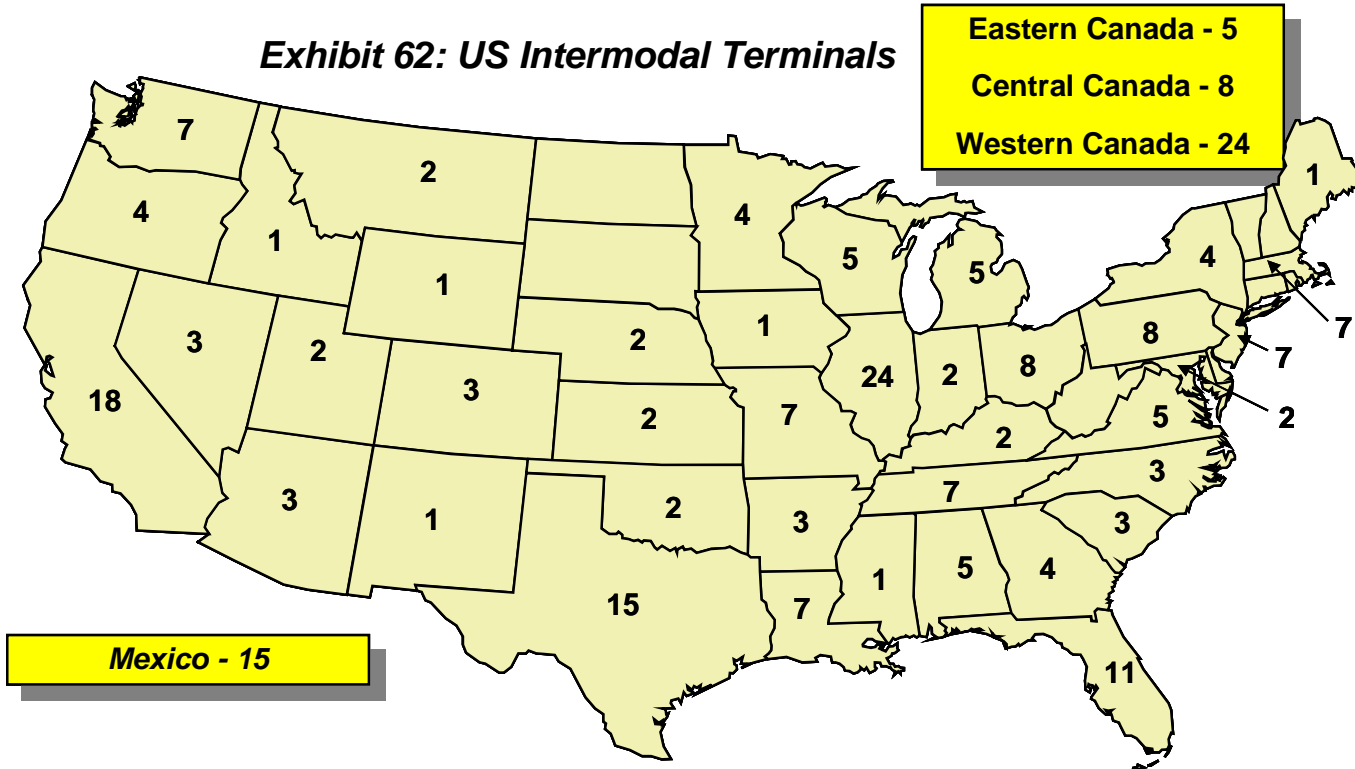
At longer drayage distances, intermodal is less competitive

- Shipper C would pay substantially more for intermodal than for truck.
 - For Shipper C, direct truck is \$2000 but intermodal is uncompetitive at \$1300+\$650+\$150=\$2100 due to very long drayage at origin.
 - A 400-mile dray for a 1700 mile line-haul is not economical.



Intermodal terminals are concentrated in major metropolitan markets and “gateway” states

- The map below indicates which markets are most accessible. Intermodal facilities are clustered in the major metropolitan areas, and at the traditional rail gateways of Chicago, St Louis, Kansas City, Memphis, and New Orleans.



Source: 1998 Official Intermodal Guide, IANA, TMM

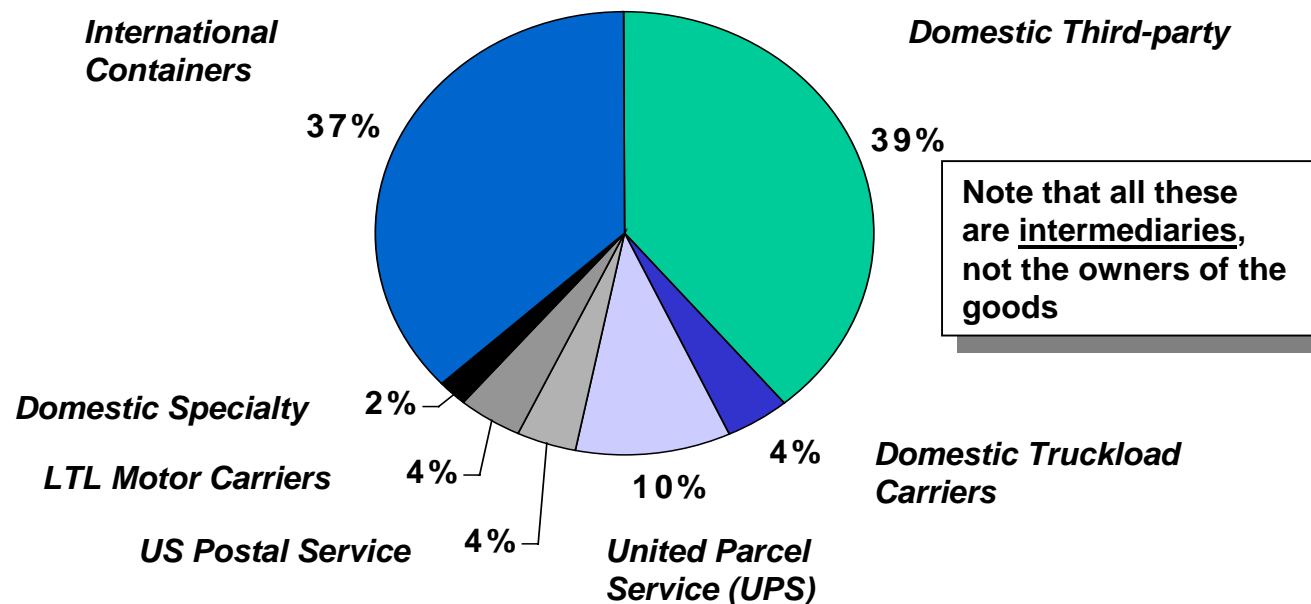
Intermodal Terminals and Service

- The growth of intermodal traffic, the enormous influx of double-stack trains and marine containers, and the even more recent entry and rapid growth of rail-truckload initiatives all raise questions about the adequacy of intermodal terminals to handle traffic increases, and to do so efficiently.
- In the 1980s railroads consolidated their intermodal service networks into fewer, larger hub terminals.
 - Railroads saw an opportunity to consolidate facilities duplicated in mergers, a need to consolidate enough volume in one location to justify lift machines, and a tendency for smaller facilities to be unbalanced and therefore unprofitable.
 - Most terminals handling less than 1000-1500 lifts per month were closed, and the capital spending which increased hub terminal capacity in the 1980s was justified by operational advantages associated with mechanization and consolidation.
- The issues now facing railroads are different, and the challenge facing the industry is to find capacity for future dramatic growth. It is not clear that indefinite expansion of large hubs is optimal, or even reasonable. The alternatives include increasing productivity at existing ramps, building new facilities, and rationalizing the use of terminals.

Intermodal is composed of several distinct market segments

- Almost none of the traffic is tendered directly by the beneficial owners of the goods. Virtually all intermodal traffic is tendered by either other carriers, such as steamship lines or truckers, or by intermediaries.
 - The largest single customer is UPS, and has been for many years. A very large share of all long-distance UPS ground shipments move via intermodal.
 - The Postal Service, directly and through its contractors, is also a major intermodal customer.

Exhibit 63: Intermodal Participants

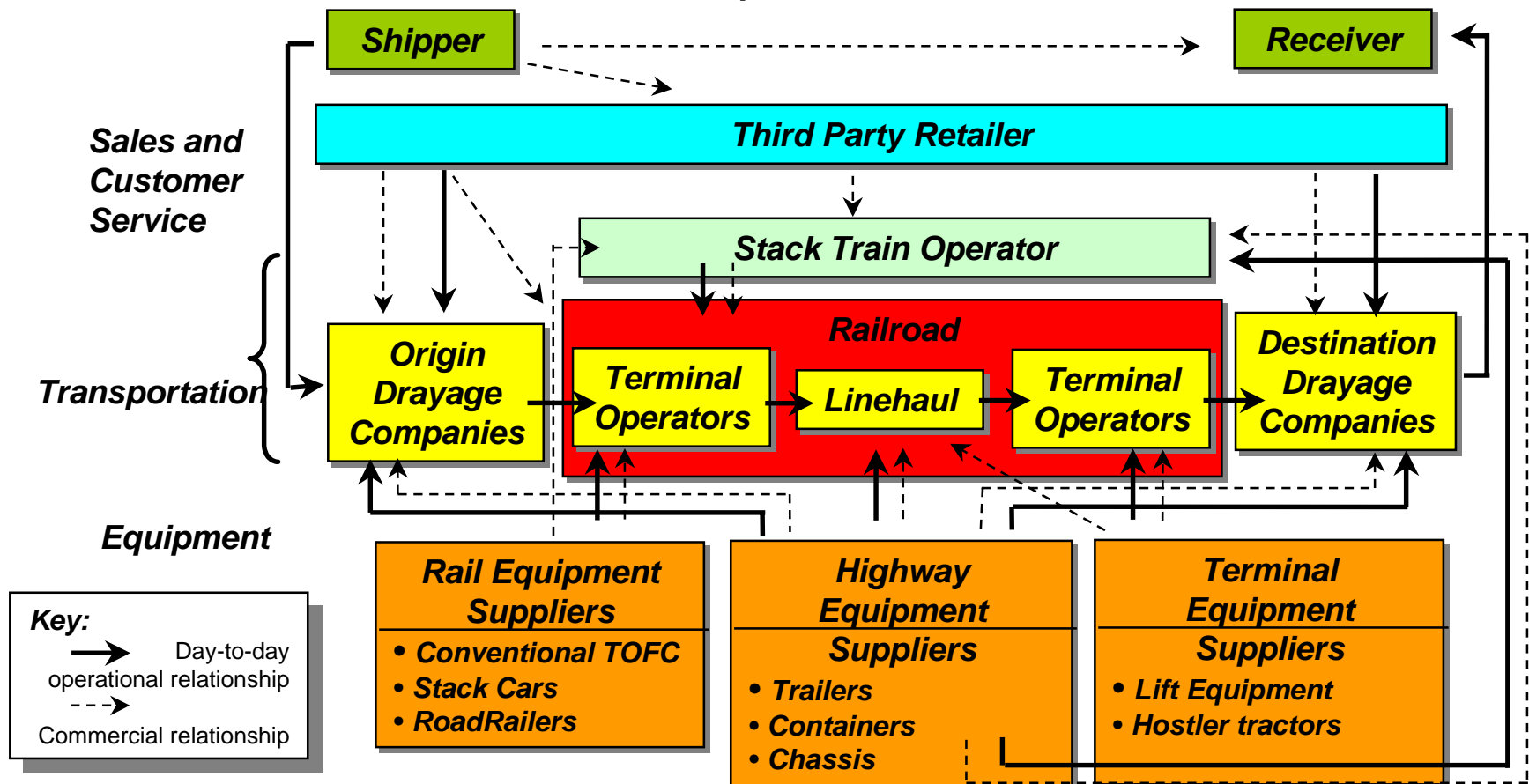


Source: Mercer 1992

Intermodal transportation involves many players in complex combinations

- There is a very good reason why all the traffic comes from carriers or intermediaries rather than from actual shippers and receivers: complexity

Exhibit 64: Complex Intermodal Transactions

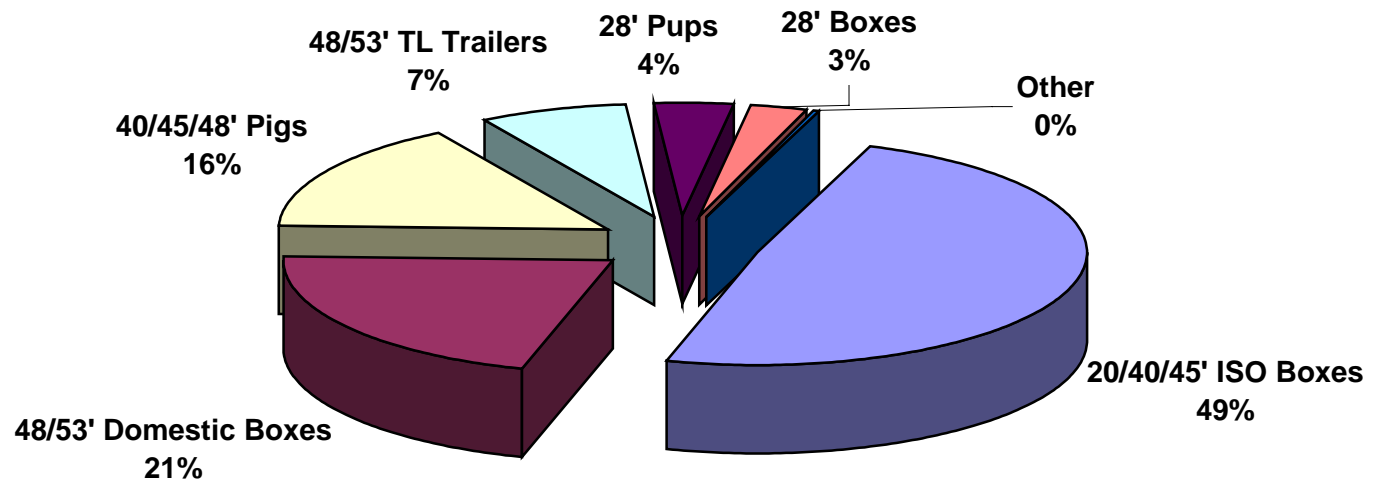


“Third parties” arrange intermodal transportation on behalf of the customers

- Intermodal intermediaries are known generically as third parties, but most of the are IMCs. IMCs are the most common avenue into intermodal transportation ,and are the best bet for a domestic shipper learning the business.
 - Many customers use a “third party” (neither shipper nor receiver) to arrange complex equipment supply, origin and destination drayage, and rail service combinations.
 - Such agents have included freight forwarders, shipper’s agents, shipping associations, and brokers of various kinds.
 - The third-party business is currently dominated by “intermodal marketing companies” (IMCs) who combine the functions of many previous firms under one roof.
 - Major IMCs include Hub City, Alliance Shippers, Mark VII, Rail-Van, Riss Intermodal, GST, C.H. Robinson, and Matson Intermodal.
- Intermodal Marketing Companies offer multiple services
 - Intermodal marketing companies (IMCs) handle about 40% of the intermodal traffic, including most of the domestic traffic.
 - Intermodal marketing companies manage the “package” of equipment supply, rail service, and drayage for their customers
 - Some IMCs have taken charge of equipment supply and manage their own fleets.
 - IMCs increasingly provide truck brokerage for over-the-road loads.
 - The largest IMCs now also offer logistics services.

Intermodal customers use a mix of equipment types

Exhibit 65: Intermodal Equipment Mix



Type	1Q99	1Q00	Share	Growth
20/40/45' ISO Boxes	1,088,911	1,226,019	49%	13%
48/53' Domestic Boxes	446,653	529,871	21%	19%
40/45/48' Pigs	431,906	395,950	16%	-8%
48/53' TL Trailers	163,104	182,142	7%	12%
28' LCL Pups	110,331	95,885	4%	-13%
28' LCL Boxes	47,906	70,847	3%	48%
Other	6,205	5,211	0%	-16%
Total	2,295,016	2,505,925	100%	9%

Intermodal customers use a mix of equipment types

Most piggyback loads travel in private or leased trailers

- The 40-footer is almost extinct
- Rail and rail-controlled leased equipment is mostly 45' and 48'

Private and non-rail leased equipment is:

- 28' (LTL truckers)
- 45' (third parties using leasing company trailers)
- 48' (IMCs and some truckload carriers)
- 53' (most truckload carriers)

Most containers are international "ISO" boxes

- 20', 40', and 45' dry vans (plain boxes) predominate
- "Specials" include reefers, flats, tanks, bulkheads, and open-tops, but only reefers are common on intermodal trains

Domestic containers were introduced in 1986

- 48' and 53' sizes predominate
- 28' boxes are used by UPS
- UP and BNSF (ATSF) have small domestic tank fleets

Exhibit 66: Intermodal Trailers

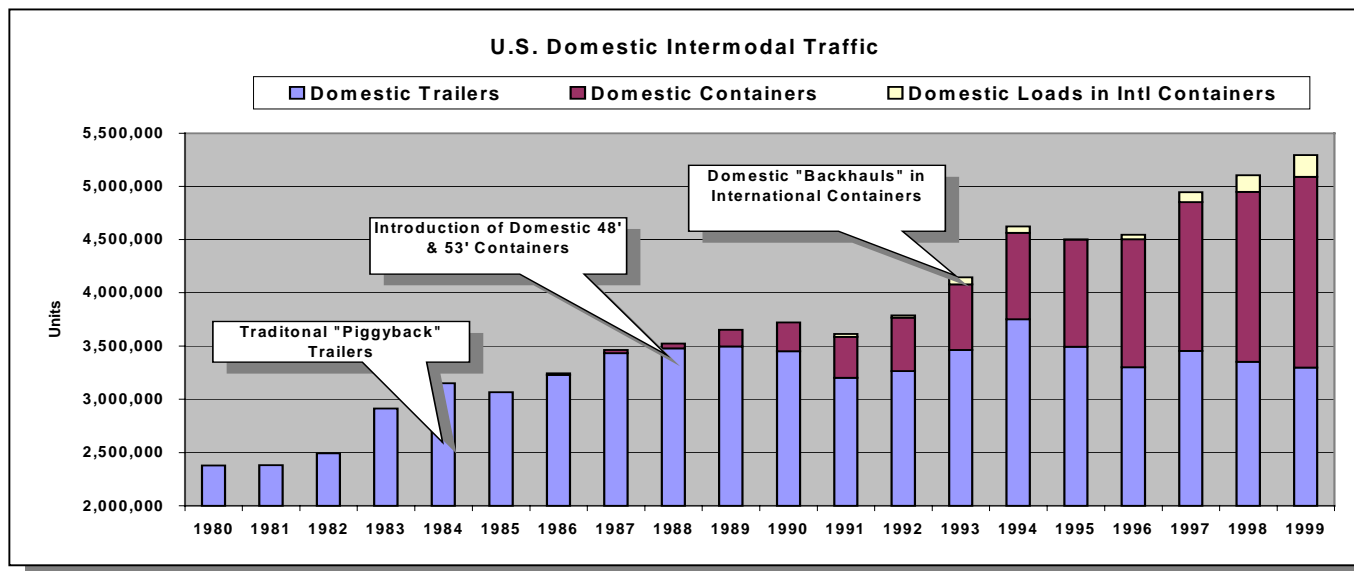
1Q 2000 Intermodal Trailer Mix			
Length	Rail- Controlled	Private & Leased	Total
20'	0%	0%	0%
28'	0%	14%	14%
40'	0%	2%	2%
45'	24%	11%	35%
48'	21%	9%	30%
53'	0%	18%	18%
Total	45%	55%	100%
Source: IANA Rail Report			

Changing Intermodal Equipment Mix

Intermodal growth is almost all containers
 Older 40ft and 45ft trailers are disappearing
 “Piggyback” growth, if any, is in 28’ pups from
 LCL truckers and 48’/53’ trailers from
 truckload truckers
 Domestic truckload intermodal growth is
 dominated by 48ft and 53ft containers
 There is also a significant volume of domestic
 freight moving as backhauls in international
 containers

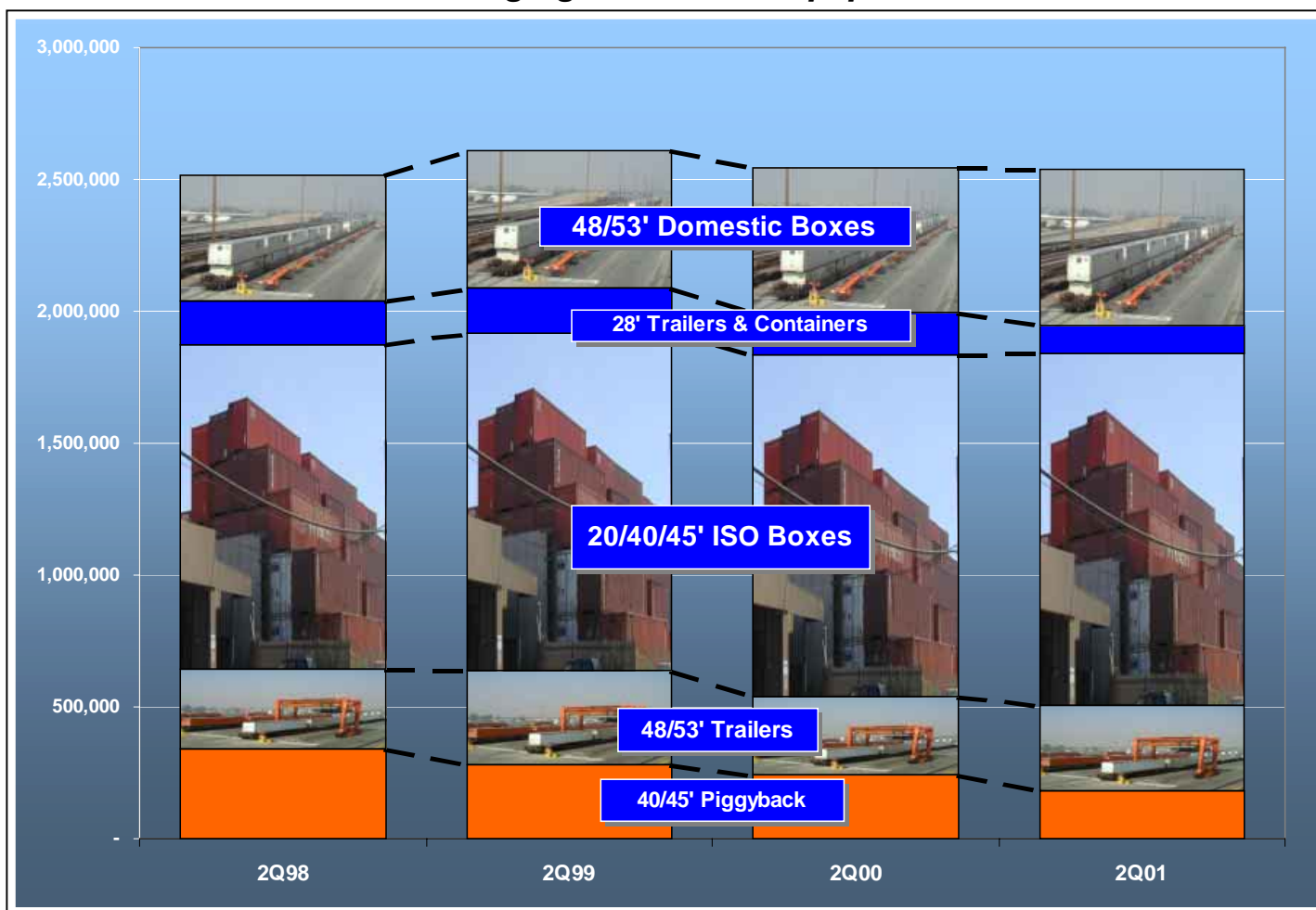
Equipment Size & Type	Est. 1Q99-00 Growth
All	9.2%
28' Trailers and Containers	4.9%
40-45' Trailers	-13.3%
48-53' Trailers	7.1%
20/40/45' Containers (ISO)	12.5%
48-53' Containers (Domestic)	18.6%

Exhibit 67: Changing Intermodal Equipment Mix



Changing Intermodal Equipment Mix

Exhibit 68: Changing Intermodal Equipment Mix



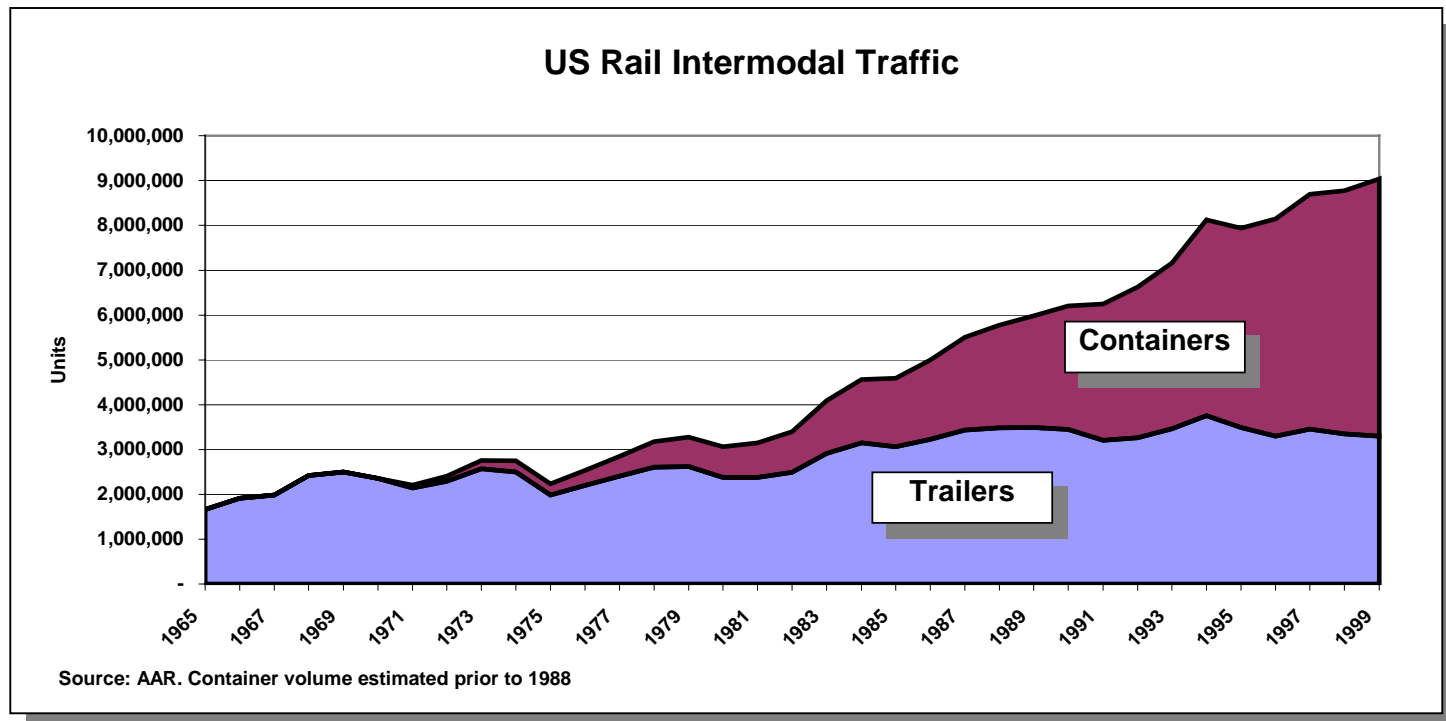
Intermodal Outlook

- In the early 1990s intermodal was a booming business, but the growth has slowed and the outlook is mixed.
 - Recent intermodal growth has been slow due to rail service problems.
 - The near future holds both plusses and minuses for intermodal.
 - Intermodal has not penetrated short-haul or specialty markets.
 - Longer and heavier trucks are a major threat.
- For domestic traffic in particular, the future of intermodal will be determined by the interplay of opposing forces.
 - The upward pressure on truck rates exerted by fuel prices will work in intermodal's advantage, as will the ongoing driver shortage.
 - Probably the biggest single hurdle facing domestic intermodal is the customer “turnoff” from industry difficulties in the late 1990s.
 - Another problem, however, is that railroads have backed out of some low-volume traffic lanes, reducing choices for their customers.
 - The driver shortage is beginning to hit drayage firms as well as long-haul truckers.

Intermodal transportation is growing

- Intermodal has grown and will continue to grow. As the graph suggests, the volume of trailers being carried is essentially flat, with the growth coming in containers.
- More than anything else, it is international containerized trade that is driving intermodal traffic growth.

Exhibit 69: US Intermodal Traffic Growth



1999 intermodal growth was only moderate

- There was only moderate growth in 1999, and there has been less in 2000 to date.
 - Domestic movements in trailers declined and domestic containers grew.
 - LTL/parcel business expanded at 3% while traditional truckload “piggyback” declined.
 - Domestic container business grew strongly.
 - Business in international containers – including domestic backhauls and empties – grew moderately.

Exhibit 70: Recent US Intermodal Traffic

1998-1999 Rail Intermodal Traffic

	1998	1999	1999 Share	98-99 Growth
Domestic Trailers & Containers	4,973,830	5,117,242	52%	3%
Domestic LTL/Parcel Trailers	654,905	677,326	7%	3%
Domestic Truckload Trailers	2,517,423	2,391,099	24%	-5%
Domestic Containers	1,801,502	2,048,817	21%	14%
International Containers	4,564,997	4,799,930	48%	5%
Total Intermodal	9,538,827	9,917,172	100%	4%

Source: IANA

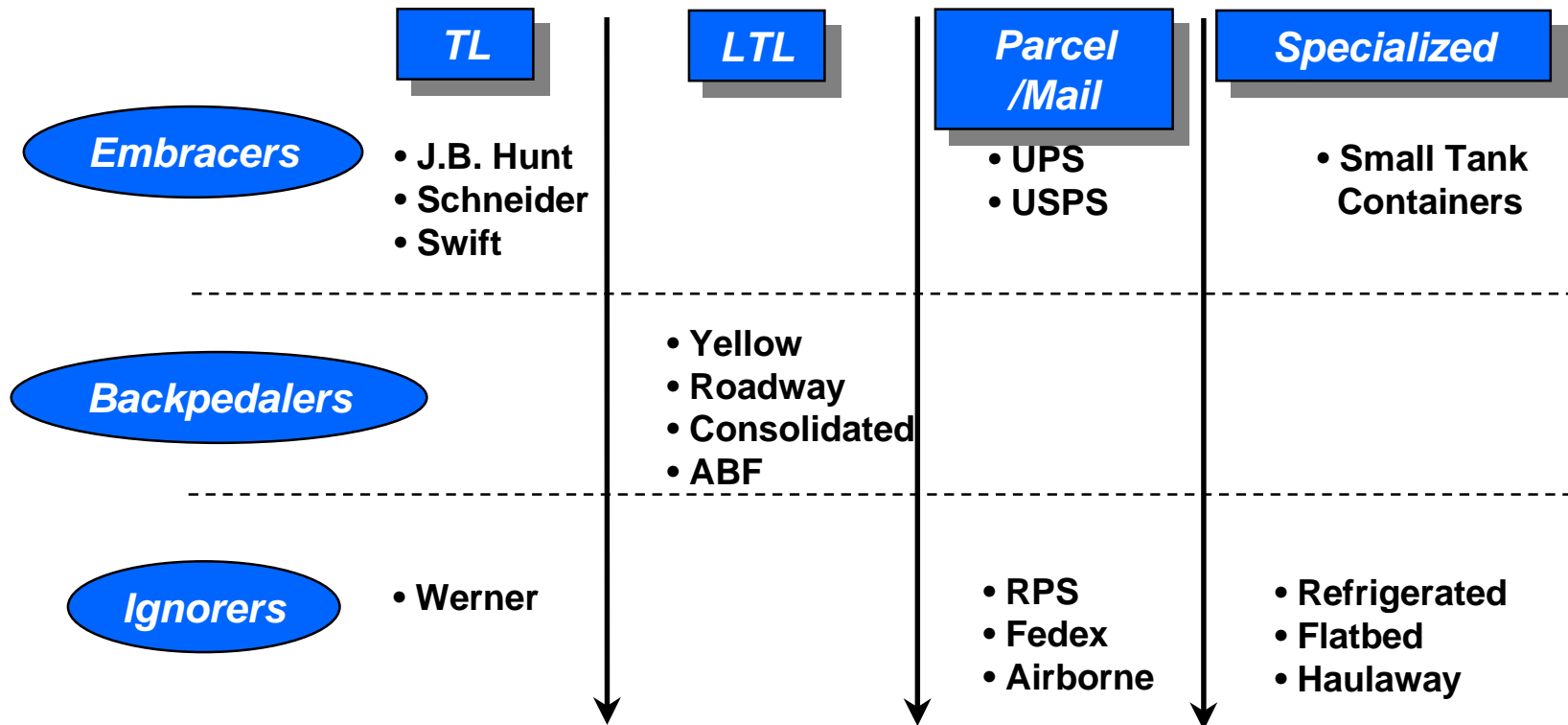
Intermodal transportation competes head-to-head with long-haul trucking

- The basis for customer comparisons is long-haul trucking. The advantages and disadvantages of trucking vary by lane and location.
- Truck rates vary as conditions change
 - The rate per mile goes down as the length of haul (mileage) goes up.
 - The rate goes up when it is hard to get a return load (e.g. Denver to Los Angeles) or when the driver has to “deadhead” a long way.
 - The cost goes down when the trucker has excess capacity (e.g. Monday afternoon in Los Angeles with 10 tractor/trailer/drivers but only 2 loads).
- Intermodal has to be price competitive. In Southern California, for example:
 - Westbound truckload rates are higher (due to high demand) and it is easier for intermodal to compete.
 - Eastbound truckload rates are lower (due to excess capacity) and it is harder for intermodal to compete.

Some motor carriers use intermodal as part of their own operating strategy

The truckers themselves use intermodal in some case, but for their own reasons

Exhibit 71: Motor Carriers and Intermodal

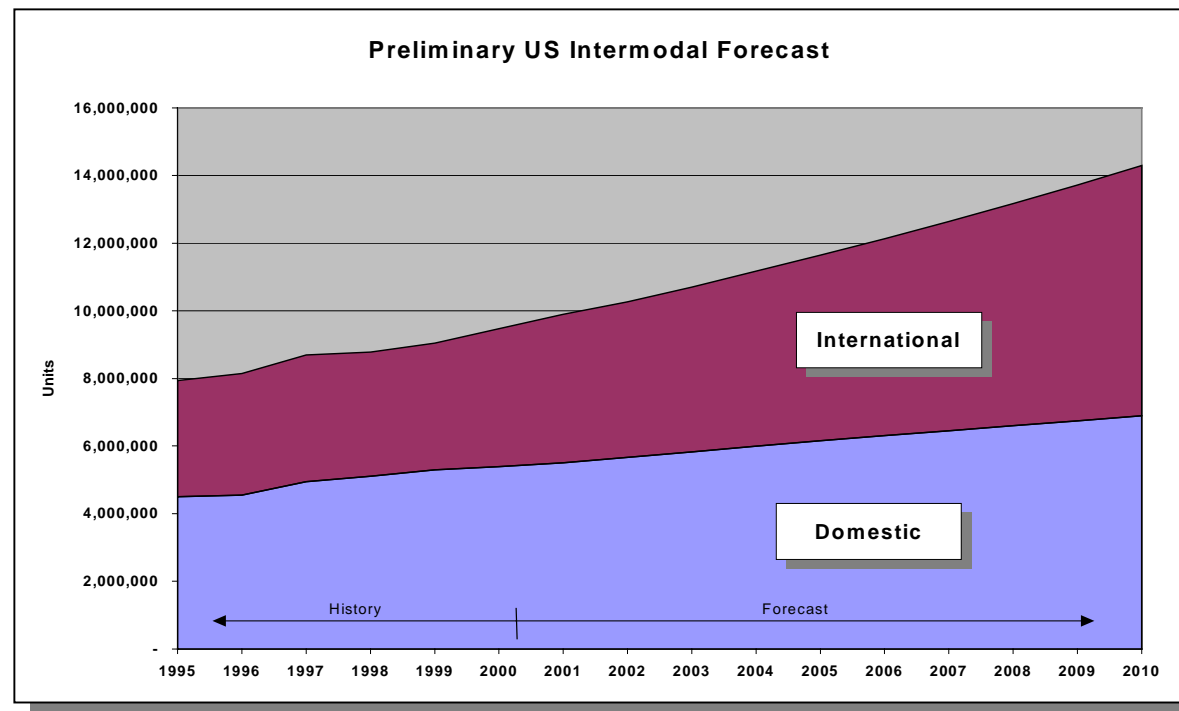


Total US intermodal volume will grow by an average of about 4% annually between 2000 and 2010

Tioga expects relatively slow growth in the years to come as intermodal maintains its present market share.

- Domestic traffic will grow with the economy and international traffic will grow with foreign trade.
- Domestic traffic will grow at about 2%, similar to a conservative view of US economic growth.
- International traffic will grow at about 6%, keeping pace with US containerized foreign trade.

Exhibit 72: Intermodal Growth Forecast



The intermodal industry faces serious challenges

- To grow share, the intermodal industry has a long “to-do” list of improvements, the first of which is improving service consistency. The industry lost ground in the last three years. On-time performance and end-to-end consistency is only now recovering to pre-1997 levels on some carriers, although BNSF never dropped as far as the other major railroads.
- The demands customers place on carriers are constantly increasing, and intermodal carriers have to meet tougher standards in areas such as customer service and claims handling.
 - Improving rail intermodal service consistency
 - Attracting more TL motor carriers, specialized business, NAFTA shipments, and medium haul traffic
 - Managing customer service and relationships
 - Improving equipment utilization
 - Achieving adequate profitability
 - Exploiting new technology
 - Avoiding or surviving increased truck sizes and weights

Domestic intermodal traffic growth will balance pluses and minuses

Pluses

- Higher fuel prices favoring most efficient mode
- Continued economic growth
- Long-haul truck driver shortage
- Public policy support and TEA-21 funding
- Increased insurance, compliance, and tax costs for truckers
- Improved post-merger service levels
- Advantages of domestic containers

Minuses

- Customer “turn-off” from merger problems
- Slower economic growth
- Railroad withdrawal from some minor lanes
- Drayage driver shortage
- Ultimate LTL teamster limits
- Slim profitability for railroads

“Alternative technologies” have held promise for years with only minor impact

- There have been any number of efforts at new intermodal systems, the most successful of which has been the carless RoadRailer, a specially fitted trailer that can travel directly on railroad wheel sets. RoadRailer service is offered by Triple Crown, a Norfolk Southern subsidiary, and by Amtrak in some corridors. Rail Runners are similar, and there was a pilot application in California. The Iron Highway is a continuous rail platform that is being used in Eastern Canada.
- RoadRailer and Iron Highway were considered to be strong contenders for short-haul markets.
 - RoadRailer (bimodal trailer)
 - 3,000 units in service (1993)
 - Triple Crown Services (NS) and Schneider
 - Active on six railroads and Amtrak
 - Rail Runner
 - Like RoadRailer, but works for containers on chassis
 - First application in July 1999 in California to carry solid waste
 - Iron Highway (continuous platform)
 - Handles any equipment of any length
 - CSX piloted it in 1995 in Detroit-Chicago lane (discontinued)
 - CP successful in Montreal-Toronto-Detroit lane (ordered more)

Intermodal is facing both limitations and new competition

Service to specialty markets has been disappointing

Intermodal's strength has always been in dry freight

- International containers include several specialty types, but they only occasionally move via intermodal.
- Repeated efforts at refrigerated service have been only partly successful.
- Tank containers for bulk liquids (e.g. food products, chemicals) have only gained a small domestic niche.
- Flatbed domestic containers for lumber, etc. have not caught on in significant numbers.
- Auto-loading equipment (e.g. AutoStack) has had limited application.

Amtrak is competing for intermodal business

Amtrak's aggressively expanding express business is offering many of the same features as intermodal. It provides an alternative for small shipments up to carload lots.

- Amtrak is expanding its Mail & Express equipment fleet of RoadRailers and conventional boxcars.
- Amtrak is entering the California refrigerated market by offering fast transcontinental transit times of 3 days and refrigerated cars that can carry 2-3 truckloads each.
- Amtrak has alliances with BNSF and two IMCs to boost its Mail & Express sales volume and carry intermodal freight (including UPS).

Intermodal Transportation In The SCAG Region

The SCAG region is served by the second largest intermodal rail complex in North America

- Rail intermodal terminals in the Los Angeles basin are second only to those in the Chicago area in total capacity and throughput
- The Union Pacific Railroad (UP) maintains four intermodal facilities, including the Intermodal Container Transfer Facility (ICTF) serving the ports
- Burlington Northern Santa Fe (BNSF) maintains one major facility, the largest on their system, and a second large facility in the Inland Empire
- There are eight on-dock intermodal terminals in the region
- Together, these rail intermodal terminals handled approximately 3 million trailers and containers in 1998

The Los Angeles basin is a major market for domestic intermodal freight transportation

- About a third of total U.S. rail intermodal traffic originates or terminates in the Los Angeles basin
- Of that volume roughly a third is domestic
- Los Angeles area shippers and receivers rely on the efficiency and service quality of domestic intermodal freight transportation to obtain timely delivery of goods at minimum cost
- Los Angeles area rail intermodal terminals originate and receive over 250 intermodal trains every week supporting the region's congestion management goals and environmental policy

Intermodal Transportation In The SCAG Region

- Rail served land-bridge cargo is of critical important to the ports
 - Generally speaking, Los Angeles rail intermodal services are competitive for points east of the Rocky Mountains
 - As of 1996, the available statistics indicate that land-bridge traffic (international cargo moving between the West Coast and cities in the East and Midwest) was about half the total container business at these ports.
 - The New York-Chicago-Los Angeles corridor is considered the nation's premier intermodal route
- Capital investments have reduced the region's reliance on drayage services

Drayage is expensive (relative to long haul rail and ocean trips), so large capital investments have been made to reduce the reliance on marine-to-rail drayage services in the L.A. basin

 - In 1987, the Southern Pacific opened the Intermodal Container Transfer Facility (ICTF), a rail terminal approximately 16 miles closer to the ports than its other railhead in downtown Los Angeles
 - The two ports have added specialized rail loading facilities eight marine terminals (on-dock rail intermodal terminals)
 - Construction has started on the \$2.4 Billion Alameda Corridor Project, which will dramatically improve direct railroad service to the Ports of Long Beach and Los Angeles

SCAG Region Intermodal Traffic Origin States

- Most inbound rail intermodal traffic comes from a few major states.
- The Illinois total is inflated due to interchange in Chicago.

Exhibit 73: Inbound Intermodal Traffic

1999 Inbound Intermodal Traffic			
Origin State	Units	Share	Cumulative Share
IL	604,000	44%	44%
TX	302,388	22%	67%
LA	105,280	8%	74%
AR	70,880	5%	80%
KS	64,120	5%	84%
TN	43,400	3%	87%
OR	27,291	2%	89%
MO	22,480	2%	91%
GA	16,040	1%	92%
All Others	105,280	8%	100%
Total	1,361,159	100%	

SCAG Region Intermodal Traffic Destination States

- Likewise, most outbound rail intermodal traffic is destined for a few major states.
- A small amount moves within California.
- The Illinois total is inflated due to interchange in Chicago.

Exhibit 74: Outbound Intermodal Traffic

1999 Outbound Intermodal Traffic			
Destination State	Units	Share	Cumulative Share
IL	438,240	43%	43%
TX	183,240	18%	61%
LA	133,280	13%	74%
AR	48,000	5%	78%
TN	46,440	5%	83%
KS	39,560	4%	87%
GA	18,560	2%	88%
MO	16,400	2%	90%
CA	15,480	2%	92%
All Others	86,696	8%	100%
Total	1,025,896	100%	